

Interview with Sir John Ball, President of IMU during the ICM2006

LA GACETA: Sir John, we have just finished the ICM 2006 in Madrid and all the Satellite activities related to it. What is your evaluation of these events?

Sir John Ball: The Congress was marvellous, and a great credit to those who planned and carried out the complex organization. It was a special honour that His Majesty King Juan Carlos agreed to open the Congress, and he performed this duty admirably, staying much longer to talk to participants afterwards than expected. I could not attend as many lectures as I would have liked, but my impression was not only that the mathematics described was of a very high standard, but that the general quality of exposition had improved in comparison to previous ICMs – many others that I talked to had a similar reaction.

There were several fascinating events surrounding the Congress, such as the exhibition of previous ICMs, and the gradual creation of a mathematical sculpture by Keizo Ushio. The ICM Press Office was superb, and the online transmission of the Plenary Lectures and the Opening and Closing Ceremonies an important innovation.

Particularly pleasing for IMU was the success of the IMU General Assembly held in Santiago de Compostella the weekend before the Congress. This continued the tradition of previous General Assemblies, combining hard work with the renewing and making of many international friendships. The agenda this year was intense and significant, and a number of major decisions were taken that I hope will benefit the international mathematical community in the future.

Unfortunately I was not able to go to any of the many Satellite meetings, but I heard positive reports concerning several of these.

LG.: One of the surprises for us was the spectacular media coverage of the Congress around the world and especially in Spain. What in your opinion were the reasons for all this attention?

Ball: Even though I had expected and hoped for a lot of media interest, the extent of it surprised me too. There were two main reasons. First, there was a wonderful mathematical and human story to tell surrounding Grigori



Perelman and the Poincaré conjecture. Second, the ICM Press Office and IMU cooperated in the planning and implementation of a more professional effort to attract media coverage than for previous Congresses. Of course the fact that we had a good story to tell was a stimulus to this coordinated effort.

LG.: and do you have any comments about Perelman declining to accept the Fields Medal?

Ball: I have probably too much to say about this, and must keep a lot of it to myself, particularly concerning the discussions I had with Perelman in St Petersburg, which although fascinating were not intended for public dissemination. Of course the story has many different elements and continuing developments. Perhaps I can say, however, that I offered Perelman the possibility of making a statement explaining his reasons for declining to accept the Fields Medal, and he preferred not to do this. I think that this indicates that his reasons were complex and not easily encapsulated into a sentence or two. Certainly one of these reasons was that he did not want to be seen as an emblem of a community that he does not feel a part of.

Of course, Perelman had every right to decline the medal, and he was courteous in explaining to me his decision. Equally, I am sure IMU made the right choice in awarding him the medal despite this decision. In fact his medal was minted, and should he ever change his mind it is his to collect - together with the prize money! Although I don't expect this to happen I would be delighted if it did. But more important is that, by whatever route, he finds it possible to continue doing and communicating his mathematics. Great talents such as his are too rare to be wasted.

LG.: There are some new important changes in the functioning of ICMI. Can you explain to our readers these changes?

Ball: ICMI is IMU's International Commission on Mathematical Instruction. This is a very important part of IMU's activities. However, the relations between research mathematicians and those working in mathematics education have not been optimal, which is counterproductive for both communities. Indeed in one of its formal Resolutions the 2006 IMU General Assembly recognized "the importance of continuing and strengthening the relationship of IMU with ICMI" and urged "the increased involvement of research mathematicians in mathematical education at all levels". Of course there are very real issues here, concerning what is taught and how it is taught, that can only be resolved by such an involvement.

Anyhow, the formal electoral relationship between IMU and ICMI had become out of touch with the situation on the ground. The ICMI Executive Committee was previously elected by the IMU General Assembly, and not by the ICMI General Assembly that meets every four years at the large International Congress on Mathematical Education. This situation was demeaning to ICMI, and not the way for the interests of research mathematicians to influence

mathematics education. In future the ICMI General Assembly will elect the ICMI Executive Committee. Nevertheless ICMI remains very positive about its affiliation to IMU, and the Nominating Committee for the ICMI Executive Committee involves IMU and its President in an essential way.

LG.: The next ICM will be celebrated in Hyderabad, India. Can you explain us the reasons for this choice?

Ball: The IMU Executive Committee had a difficult choice in deciding between two very strong bids for ICM 2010. It appointed a small subcommittee which visited both sites and asked for responses to a set of key questions. The bid from India was evaluated on the basis of ICM 2010 being held in Delhi, but the possibility was raised that the location might later be changed to Bangalore or Hyderabad should suitable conference centres planned or under construction in these cities become available in time. In the event, a fine new conference centre in Hyderabad was opened in January 2006.

I personally visited Hyderabad in June this year, inspected the facilities, and held discussions with those who will be involved in the organization of the Congress. I have no doubt that it will prove a fine location. However the decision to choose India was made without having seen these new facilities, and was as close as it could be. Perhaps the key factors were the financial commitment of the Indian government, as later confirmed in a letter from the Indian Prime Minister, and the perception of the benefit to the Indian mathematical community that holding the ICM there would bring.

Of course each ICM learns from its predecessors, and I am sure that the organizers of ICM 2010 in Hyderabad will be aiming not only to emulate the success of Madrid but to make their own innovations.

LG: You have had a lot of contact with many mathematicians during your presidency. Based on those contacts, which are the biggest challenges facing the profession?

Ball: We have every reason to be proud of our profession, which has a very strong record of quality, integrity and service. Nevertheless there are important challenges to confront. First, we have to make the case to governments, opinion formers and the media that mathematics is of critical importance for the world, and that measures to encourage more students to study the mathematical sciences must have a high priority. Second, mathematicians in higher education must involve themselves more in education at the school level, so that they better understand the difficulties faced by teachers and can positively influence what is taught.

LG.: Just to sum up, can you say a few words about how you see the IMU overall? How is it functioning? What does it need to work on further? What is it doing well?

Ball: IMU has a fine tradition and given its resources does a pretty good job. I am happy that over the last few years we have become somewhat more thoughtful in developing policy in some areas, for example in connection with electronic information and promoting mathematics in developing countries. Nevertheless the resources that come from the dues of member countries are obviously insufficient to pay for the more comprehensive and professional service to the mathematical community that could reasonably be desired, and so we need to decide whether and how external funding should be sought to this end. Some may regard such developments as a betrayal of past traditions, but I think they are inevitable and that the real choices lie in how they should be managed.

LG.: Do you have any advice for your successor Prof. László Lovász in IMU?

Ball: Don't pay any attention to past Presidents! I am delighted by his election, and have every confidence that he will be a fine leader of IMU.

LG.: Have you got any advice to the mathematical community and, in particular, to the Spanish mathematical community for the future?

Ball: I am not sure that anyone would, or should, take any notice of such advice. But just in case they do, I would suggest taking a few moments to reflect on what contribution you are making to mathematics and its influence in the world, and whether there is anything more you could do which might bring satisfaction when you look back on it in the future.

